IJELLH

International Journal of English Language, Literature in Humanities

Indexed,Peer Reviewed (Refereed), UGC Approved Journal

Volume 7, Issue 2, February 2019

www.ijellh.com

Mr. Imandi Rajasekhar

Assistant Professor,

Department of English, GVP College of Engineering,

Visakhapatnam, Andhra Pradesh, India

rajasekharimandi@gvpce.ac.in

The effects of Cognitive Language Learning Strategy Instruction on ESL Engineering College Students' Reading and Writing performance – a Pilot Study

Abstract: The goal of the pilot study was to check the validity of the research design and the instruments used in the actual doctoral study. The objectives of the study are to find learners' strategy use and to investigate the effects of learner strategy training on Telugu ESL learners' reading and writing performance. The study also investigated the relationship between independent variables like gender, ethnicity, and medium of instruction, school type and learners' English Exposure. The researcher examined the correlation among English exposure and reading and writing strategy use using linear regression test. A total of 30 students participated in the pilot study. The participants completed two sets of self-reported questionnaire, including background questionnaire and Strategy Inventory for Language Learning, SILL version7.0 (Oxford, 1989). It was a quasi-experimental study of pre- and post-test design. The strategy instruction program lasted for 4 weeks. The experimental group was given an explicit strategy instruction on cognitive learning strategies. The data were computed and analyzed using descriptive statistics with the help of IBM SPSS software. The data were collected using reading and writing strategy questionnaire, and learner dairies. Results of the study indicated there is no significance between gender, ethnicity, and learners' English Exposure, but found and medium of instruction, school type contributed increase in

learners' English exposure. The experimental group significantly outperformed than control group on awareness of strategies, utilization of strategies and reading and writing test.

Key words: Cognitive strategies, Language Learning Strategies, Strategy Instruction Program

1.   Introduction

Language learning strategies and Second Language Acquisition looks contradictory from the linguistic perspective. The universal hypothesis claims that second language acquisition happens naturally, without mental efforts on the learner's part. On the other hand, Language Learning Strategies(LLS) reflect what happens in cases of instructed SLA, or, in Krashen's (1985) terminology, in learning (not acquiring subconsciously) the target language.

Although language learning strategies have always been recognized, there is a limited amount of research on different ways of learner training in strategy employment. Strategy formation depends not only on the availability of unintended stimulus-relevant information but also on the provision of discrete training about performance. Effective strategy application may be continually refined with explicit training of the learners' performance until it becomes almost automatic, requiring little in the way of conscious thought. Regarding the effectiveness of teaching strategies, teachers are given the responsibility to draw classroom learners' attention to strategies by making them more salient. However, the major question to be addressed is to what degree this attention toward the effective strategy application should be explicit. The present study has focused on the effects of training, provided in two different ways, to investigate the learners' opportunities in promoting and internalizing the cognitive strategy.

2.   Language Learning Strategies

Anna Uhl Chamot (1987, p.71) came out with the term "learning strategies" and defined it as "techniques, approaches or actions that learners take deliberately in order to facilitate the learning and recall of both linguistic and content area information". Wenden (1987, p.6) used the term "learner strategy" while Oxford (1989, p.3) termed it as "language learning strategies". Although the terminologies used by these writers differ, all of them are used to describe conscious steps or behaviours used by language learners to enhance the acquisition of a new language.

Some of the basic characteristics that are agreed by writers and researchers in this field to describe LLS include firstly, language learning strategies as steps taken by language learners to enhance and help developing language competence as reflected in the learner's skills in listening, speaking, reading, or writing in the second or foreign language. Secondly, the strategies may be visible or not and they involve information and memory. Oxford (1990, p.9) summarised her view of LLS by listing several key features in addition to the general characteristics which are: LLS 1) contribute to the main goal of language learning which is communicative competence; 2) allow learners to become more self-directed; 3) expand the role of language teachers; 4) problem-oriented; 5) specific actions taken by the learner 6) involve many aspects, not just the cognitive; 7) support learning both directly and indirectly; 8) not always observable; 9) often conscious; 10) can be taught; 11) flexible; 12) influenced by a variety of factors.

Research on LLS has been conducted for example by Anita Wenden & Joan Rubin (1987) to understand why some language learners succeed but some do not and studies have also been

conducted to explore the strategies used by successful learners. One of the conclusions made of effective language learners is that they are aware of the strategies they use (O"Malley & Chamot, 1990). Abraham and Vann in Wenden & Rubin (1987, p.41) discovered in their study that the success of effective learners depends on their ability to choose strategies "appropriate to the acquisition of the language skills necessary to function in college" as compared to less successful learners who would not be as flexible. In addition, successful learners often use strategies in an „orchestrated" fashion and certain strategies or a group of strategies are linked to a particular language skill (Oxford, 1994, p. 3). For example, L2 writing would benefit from learning strategies of planning, self monitoring, deduction and substitution. A study conducted by Ya-Ling Wu (2007) on the use of LLS by students of different proficiency concluded that higher proficiency EFL students use LLS more often than lower proficiency students. Research by Hamzah & Abdullah (2009) also came to the same conclusion and found that more successful learners use more metacognitive strategies than less successful ones. Ting (2006) in her study of strategies used by successful and less successful learners of suburban schools in Sarawak concluded that successful learners have more repertoires of strategies at their disposal.

3.   Language Learning Strategy Training

Early research on strategy training was conducted by O" Malley (1987) which concluded that LLS training has positive effects in enhancing initial learning for both listening and speaking skills. Thompson and Rubin (1993) as cited by Oxford (1994), also agreed that LLS training have produced good results. A research by Lee Kyung Rang & Rebecca Oxford (2008) on understanding learners" strategy use and strategy awareness showed that strategy awareness has a significant effect on strategy use. It can be concluded that when the learners are aware

of the strategies then only they are able to use them. This provides evidence that raising strategy awareness as in LLS training would promote the use of these strategies.

Although every learner by nature uses some kind of strategies in learning, it is believed that he or she can be trained to be more efficient in using LLS. Suthagar Narasiman (2007) in his study on the effects of LLS instruction on reading comprehension discovered that explicit instructions improve the subjects‟ metacognitive knowledge and have beneficial effects on the subjects‟ comprehension achievement. Rajamoney (2008) who conducted a study among form four students of a secondary school, also stressed that there is a need to conduct strategy training to promote awareness of LLS among the students and to enhance students‟ language learning.

Since one of the educational goals of LLS is autonomous language learners (Wenden, 1987), it is envisaged that the inclusion of LLS training in ESL instruction, would make the learners more efficient at learning and using their second language, as well as more capable of self-directing in these endeavours. The theories and concepts underpinning LLS training as well as a model of LLS training proposed by Macaro (2001) will be discussed briefly to provide an overview of this study.

4.   Design of the Study:

It is an Intervention Study that adopted a quasi-experimental design known as 'pre-test post-test control-group design'. One control group (N=60) one experimental group (N=60) is used.

The participants in this study included a total of 120 1ˢᵗyear Engineering Students from GVP College of Engineering, Visakhapatnam. Two intact randomly selected classes are chosen in the study. Both males and females participate in the study ranging in age from 18 - 22 years. Students (Stratified sampling of N=120) are chosen representing all levels of strategy users and divided into two groups of same mean score. According to the criteria developed by Oxford (1990)

- The control (N=15) and Experimental(N=15) groups prior to Strategy Training are administered a strategy questionnaire to report their use of cognitive strategies with regard to Reading and Writing after taking a pre-test(an integrated reading-writing test developed by the researcher) Rubrics for assessment of the test is taken from TOEFL .

- An intervention of 4 weeks of cognitive strategy training is integrated with Engineering freshmen who are enrolled into a course in reading and writing skills Course work (code: 15HE1101).

- Control group are taught reading and writing skills in a regular way while experimental group are given explicit instruction raising learners 'awareness of cognitive strategies and benefits of using them. Learners are asked to verbalize the strategies as when they use and practice these strategies regularly using checklists provided by the researcher. Learners are given freedom to use strategies they deem fit for a given task and encouraged to find alternative if the chosen strategy is not yielding the result. Learners are made to become conscious of their strategy use and regulate it contextually.

- Post-test is conducted after the intervention and the same questionnaire that I used after pre-test will be administered to observe differences and the increase in the strategy use.

- Pretest and posttest scores are compared to see the attainment levels of students' performance of reading and writing in English.

Before the current study, research instruments were piloted to check the validity and feasibility of the research design for the main study. A total of 30 second year undergraduate students volunteered in the pilot study.

Participants		Experimental Group (15)	Control Group (15)	Total (30)
Gender	Male	08	09	17
	Female	07	06	13
Medium of Learning	Telugu	06	06	12
	English	09	09	18
School Type	Government	06	03	09
	Private	09	12	21
Back Ground	Urban	07	05	12
	Semi Urban	03	04	07
	Rural	05	06	11

Table: Distribution of participants (Pilot Study)

4.1   Instruments used for data collection:

The study uses quantitative model for data analysis and this interpretation is backed up with qualitative data collected from research logs and observation and Student interviews. To have a more comprehensive picture of the investigation, a mixed-methods design was adopted for the collection of data that included both quantitative and qualitative instruments.

Quantitative data

- A Student questionnaire to assess the student use of cognitive strategies (reading and writing) after pre &posttests.

- An integrated reading-writing test scores (IELTS rubrics for assessment)

Qualitative data

- Strategy check lists and Learner dairies

- Researcher's observation sheet

5.   Research Questions:

1. How do learner variables like gender, medium instruction at school, and rural / urban back ground relate to the learners' exposure of English?

2. How do independent variables like gender, medium instruction at school, and rural / urban back ground correlate to the learners' reading and writing strategy use?

3. Is there a relation between learners' reading and writing strategy use?

4. Does the Cognitive Strategy Instruction better engineering students' strategy use of reading and writing? And Does Strategy Use differ according learners' attainment levels of Reading and Writing tasks?

5. Can the Learner Strategy Training better the learners' motivation to learn English language?

6. The Strategy Instruction Program:

The experimental group was provided with a comprehensive strategy instruction Program designed by the researcher and the control group had the same number of teaching hours and followed the same course content except the strategy instruction. The control group was taught by a teacher who had qualifications and experience similar to the researcher. The strategy instruction was conducted by the researcher and was spread out over a 4 week period. The instruction was provided during class time as a series of four lecture hours in week and in the form of homework assignments. The researcher provided explicit instruction of selected strategies during the first six weeks and thereafter, the instruction was embedded into their daily reading and writing activities. The control group teacher too devoted the same amount of time for teaching reading and writing and the researcher observed some of his lessons and had informal discussions with him to understand his approach to teaching. The control group teacher's lessons were observed in order to find out whether he trained his students to use any strategies. It was found that the control group students received no training in the use of strategies.

6.1 The Outline of the Intervention:

In this section, the outline of the intervention Program is discussed. It was a three, stage process with Initiation, Intervention, and Evaluation and a brief description of what was done and who was involved in each step of the intervention Program is given below.

Initiation

Step 1: Administering the IRW Task -both groups

Step 2: Administering the questionnaire to both experimental and control groups

Intervention

Step 3: Selection of strategies for explicit training

Step 4: Implementation of the Strategy Instruction Cycle

Evaluation

Step 5: Administering the post-strategy instruction questionnaire to both experimental and control groups

Step 6: Administering the IRW Task - both groups

6.2 The Cycle of Strategy Instruction:

The cycle of strategy instruction starts with Preparation and Motivation. At this stage the teacher and the students discuss what they are going to achieve at the end of the given period of time. The importance of goal-setting in language learning has been discussed by various researchers (Anderson, 1985; Tudor, 1996). In the present study, goals were first set at a broader level (What are we going to accomplish at the end of the course?) And later goal-setting was done for each individual task they attempted.
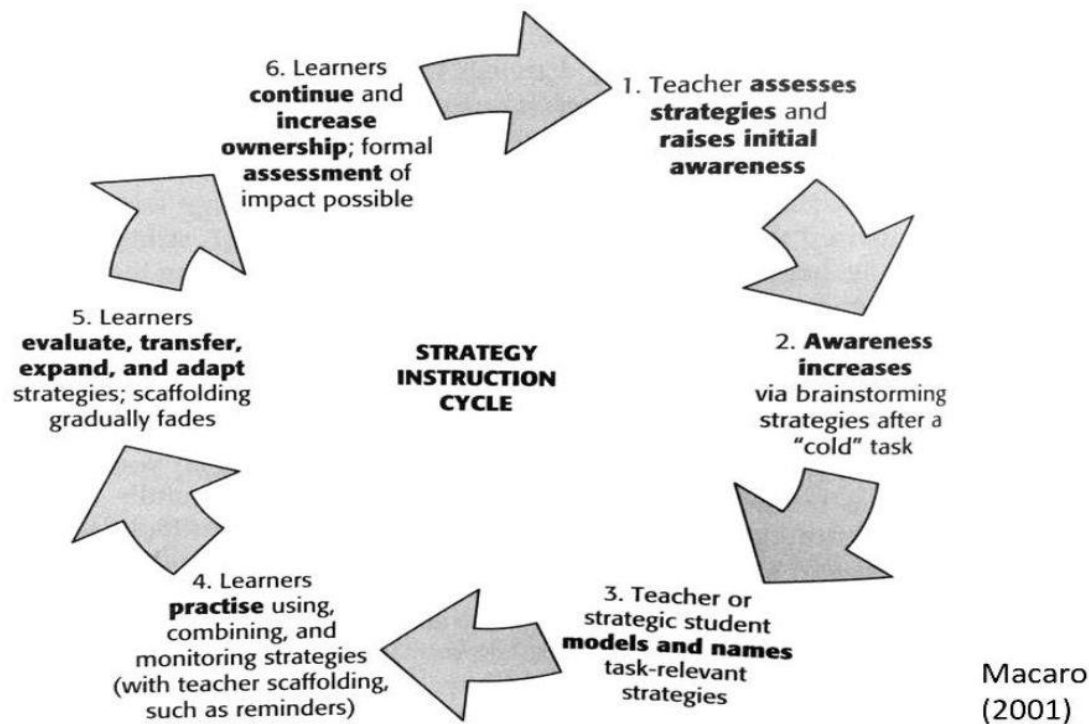
Strategy Instruction Cycle

Fig: Learner Strategies Training Cycle in Macaro(2001, p. 176)

The second step in the cycle is Presentation and raising awareness of strategies. In the present study, the students were given list of strategies that they could use to complete the tasks. For example, when writing an essay on a given topic they were trained to pay attention to the key words in the task rubrics and decide on the aspects which need attention. Task Analysis helps the students in deciding which genre to be used and who the audience will be. At this stage, the teacher discusses the problems the students have in proceeding with the task and the value of using appropriate strategies. The strategies the students already use when attempting similar tasks are discovered and modelling of new strategies is done. Third stage is Practice, the teacher guides the students in applying the strategies during different stages of the text. Teacher emphasizes the possibility of using a combination of strategies and orchestrating them to fulfill the task successfully (Anderson, 2003; Graham, 1997; Macaro, 2001). Fourth

stage is Evaluation, students self-evaluate which strategies worked and if a certain strategy is yielding good result they switch to another strategy that works for them. Fifth stage is Expansion, at this level students learn how to apply the strategies to new tasks and challenges they encounter when they read or write. Learners become independent strategy users as teacher's scaffolding drawn back.

6.3 Tasks for the Strategy Instruction Program:

The tasks used for strategy training were similar to the tasks students were expected to do in their regular course. However, the order in which the selected tasks were to be introduced to students was from simple to complex and cognitively demanding.

According to Hyland (2003), sequencing writing tasks to form a coherent progression is always an issue for teachers. He claims that there is no single way of doing this and presents suggestions made by other researchers (e.g., Feez, 1998, as cited inHyland, 2003; Nunan, 1989). Nunan suggests that tasks can be sequenced according to the demands (both cognitive and performance) they make on the learner. He proposes to start with comprehension-based activities and then move on to controlled activities and finally to tasks that need learners' engagement in communicative interaction.

In the present study, tasks were selected to represent each type of text the students were expected to learn during their language course. These were then sequenced from less demanding tasks to more demanding tasks. The order in which the tasks were used is given below.

1.   Reading for outline   2.   Identifying main ideas

3.	Infer implicit meaning	7.	Paragraph Writing
4.	Interpretation of the text	8.	Letter / E-mail writing
5.	Note Taking	9.	Product description
6.	Summarizing/paraphrasing	10.	Essay-Expository / Argumentative

The strategies were introduced gradually using the above mentioned tasks and the basis for strategy selection is given below. After introducing strategies using a particular task and taking them through the cycle, students were advised to practise strategy use with similar tasks which were given as homework assignments. They were also advised to choose tasks on their own and practise the use of strategies.

6.4 Strategies Selected for the Instruction Program:

After studying the responses to the pre-strategy training questionnaire and the stimulated recall protocols before strategy training, and through literature review, some strategies were selected for training.

1.	Tapping Prior Knowledge	9.	Planning and Outlining
2.	Previewing/ Asking Questions	10.	Coherence
3.	Making Connections/ Predictions	11.	Note Taking
4.	Visualizing	12.	Evaluating
5.	Identifying Main Ideas	13.	Revising/ Editing
6.	Organizing information	14.	Practice
7.	Monitoring and Clarifying	15.	Repetition
8.	Summarizing and Synthesizing	16.	Translating/ transferring

7. Results and Discussion:

Research Question 1:

How do learner variables like gender, medium instruction at school, school type and rural / urban back ground relate to the learners' exposure of English?

It is found that in linear regression analysis conducted F value is 2.737 and t Significance is .090 for all the Independent variables like gender, medium instruction at school, school type and rural / urban back ground. Independent variable did not have any significance on English Exposure. However the researcher noticed Male participants in the study had better exposure to English than their counterparts. Participants studied in private schools showed better mean score than that of government schools. (See table2 and table3)

Gender	Speak English at Social Gatherings	English in the classroom	Speak English in the college	Converse in English	Reading News paper	Type messages in English	Watch English Movies
Male	3.00	4.63	2.63	3.13	3.13	4.25	4.63
Female	1.71	3.86	1.57	2.14	2.43	3.86	2.43
Total	2.40	4.27	2.13	2.67	2.80	4.07	3.60

Table2: English Exposure mean scores for Gender

School type>5	Speaking English at home	Friends/Neighbours speak English	English in the classroom	Speak English in the college	Converse in English	Reading English books	Type messages in English	Watch English Movies
Private school	2.33	3.22	4.44	2.22	3.11	2.78	4.44	4.00
Government School	1.33	2.00	4.00	2.00	2.00	2.50	3.50	3.00
Total	1.93	2.73	4.27	2.13	2.67	2.67	4.07	3.60

Table3: English Exposure mean scores for School Type

Research Question 2:

How do independent variables like gender, medium instruction at school, and rural / urban back ground correlate to the learners' reading and writing strategy use?

Gender	PreTest Reading	Pre Test Writing	Post Test Reading	Post Test Writing
Male	3.7303	3.6875	4.3672	4.2768
Female	3.4737	3.4732	4.1786	4.1633
Medium				
English Medium	3.6784	3.6111	4.3611	4.2698
Telugu Medium	3.5088	3.5521	4.1563	4.1548

Background				
Urban	3.5188	3.5000	4.1339	4.1020
Semi-urban	3.8596	3.7083	4.5000	4.2619
Rural	3.5895	3.6375	4.3500	4.3714
School type				
Private school	3.7602	3.7917	3.7602	3.7917
Government School	3.3860	3.2813	3.3860	3.2813

Table 3: Mean scores' comparisons between pre and post test of Experimental Group

In the above table 3 shows that the experimental group showed improvement in their reading and writing strategy use. It is also observable that there is no significant difference between male and female participants; however participants from English medium and private school type have slightly bettered their mean scores than their counter parts. It is surprising note that students from rural back ground did slightly well than students from Urban back ground.

Research Question 3:

Is there a relation between learners' reading and writing strategy use?

 H01: There is no relation between learners' reading and writing strategy use before and after Strategy Instruction.

HA1: There is a significant between learners' reading and writing strategy use before and after Strategy Instruction.

Pre-Test   ANOVA[a]

Model	Sum of	df	Mean	F	Sig.

		Squares		Square		
	Regression	1.645	1	1.645	75.829	.000[b]
1	Residual	.282	13	.022		
	Total	1.927	14			

Table 4: a. Dependent Variable: Pre-Test Reading- Experimental Group

b. Predictors: (Constant), Pre-Test Writing -Experimental Group

Post-Test   ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	1.889	1	1.889	49.114	.000[b]
1	Residual	.500	13	.038		
	Total	2.390	14			

Table 5: a. Dependent Variable: Post-Test Reading- Experimental Group

b. Predictors: (Constant), Post-Test Writing -Experimental Group

In the Linear Regression test between the reading and writing strategy use of experimental as well as control group participants is tested. The table 4 and 5 the F test is significant (p=.000[b], p<.050[b)] and it implies that learners' reading and writing strategy use is interrelated.

Research Question 4:

Does the Cognitive Strategy Instruction better engineering students' strategy use of reading and writing? And Does Strategy Use differ according learners' attainment levels of Reading and Writing tasks?

Control Group

	N	Pre-Test	Post-Test
Reading	15	3.6596	3.7965
Writing	15	3.5810	3.7000

Experimental Group

	N	Pre-Test	Post-Test
Reading	15	3.6105	4.2792
Writing	15	3.5875	4.2238

Table 6: Mean of reading and writing Strategy Use of Control and Experimental group

The table 6 demonstrates that the strategy use of control group's pre-test M=3.6 for reading and M=3.5 do not differ that of post M= 3.7 and M=3.7 for reading and writing respectively. Whereas the pre-test M=3.6 and M=3.5 of experimental group have been improved significantly to M=4.2 and M=4.2 for reading and writing respectively.

The attainment scores of reading and writing test conducted for Experimental group before and after the intervention support the findings in the reading and writing strategy questionnaire results. The scores of participants' reading and writing achievement test conducted post intervention complemented the increase in the strategy use of experimental group as shown in table 7 below.

Pilot Study_ Control Group

	Mean		Mean
Pre Test Reading Score	1.67	Post Test Reading Score	1.40
Pre Test Writing	1.60	Post Test Writing	1.47

Pilot Study_ Experimental Group

	Mean		Mean
Pre Test Reading Score	1.7333	Post Test Reading Score	2.60
Pre Test Writing	1.7333	Post Test Writing	2.73

Score		Score			Score		Score	

Table7: Reading and Writing scores of control and experimental groups.

Research Question 5:

Can the Learner Strategy Training better the learners' motivation to learn English language?

The learner dairies were used in this study to triangulate the quantitative data. The qualitative data supported the findings in the study. Thirteen participants out fifteen from experimental group felt that strategy instruction was useful and changed their perception of learning English especially reading and writing for academic purposes. Learners felt more confident of reading and writing post intervention. They also commented that they are going to use these strategies in their study of engineering subjects. The students who had Medium/high attainment reading and writing scores remarked in their dairies as follows.

"Yes, some of the strategies really helped me to develop my language skills .I feel confident now while reading or even during presentations in English language lab and other core engineering labs ...some strategies like activation of pre knowledge and visualisation helped me to boost my confidence levels very much."

"Yes, strategy instruction has changed my English learning. Now I feel confident. Yes, it affected my attitudes towards learning English .Now I am using the strategies like visualization, asking questions and making connections"

"Before the strategy instruction I had some difficulties while comprehending the text. I couldn't understand the descriptions in the text and was poor at making connections and visualizing the situation. But after the strategy instruction, I found it very easy to comprehend, visualize the text and situation described. It helped me a lot."

8. Conclusion:

The researcher felt that the strategy instruction was fairly successful and helped piloting the research instruments that could be used now in the ensuing doctoral study. In the data collection stage the researcher strongly felt the need for an outline for the teacher's observation for learners' strategy use. Hence the researcher came up with a framework for teacher's observation tool. As per the feedback from participants few changes were made to reading and writing strategy questionnaire. Participants lost some of their learner dairy sheets provided and hence encouraged participants to record their observations using e-journals and share them to the researcher so that the researcher could trace the learners' progress in learners awareness and utilization of strategies throughout the strategy instruction program.

References

Rubin, J 1987, 'Learner strategies: Theoretical assumptions, research history and typology', in Wenden, AL & Rubin, J (eds.), Learner strategies in language learning, Prentice-Hall, Englewood Cliffs, NJ, pp. 15-30.

Rubin, J 1975, 'What the good language learner can teach us', TESOL Quarterly, vol. 9, pp. 41-51.

Rubin, J, Chamot, AU, Harris, V & Anderson, NJ 2007, 'Intervening in the use of strategies', in Cohen, AD & Macaro, E (eds.), Language learner strategies: 30 years of research and practice, Oxford University Press, Oxford, pp. 141-160.

Chamot, AU 2008, 'Strategy instruction and good language learners', in Griffiths C (ed.), Lessons from good language learners, Cambridge University Press, Cambridge, pp. 266-281.

Chamot, AU & Kupper, L 1989, 'Learning strategies in foreign language instruction', Foreign Language Annals, vol. 22, pp. 13-24.

Hamzah, M. S. G., & Abdullah, S. K. (2009). Analysis on Metacognitive Strategies in Reading and Writing among Malaysian ESL Learners in Four Education Institutions. European Journal of Social Sciences, 11(4), 676-683.

Karib, N. A. A., & Adnan, A. H. M. (2005). Between attitude towards English language and actual English language performance: An extensive study. Episteme Jurnal Akademik & Profesional, 3(1), 33-40.

Cohen, AD & Macaro, MA 2007, Language Learner Strategies: 30 Years of Research and Practice, Oxford University Press, Oxford.

rashen, S., & Brown, C. L. (2007). What is Academic Language Proficiency? Singapore Tertiary English Teachers Society (STETS) Retrieved from www.sdkrashen.com/articles/Krashen.Brown_ALP.pdf

Ab Manan, Nor Ashikin, et al. "The Effects of Language Learning Strategy (LLS) Training

on ESL College Students' Strategies Used." Gading Journal for the Social Sciences

15.01 (2017).